

REMARKSThe Claim Amendments

Applicants have amended claims 1, 5-7, 13, and 16 and added new claims 17-18.

Applicants acknowledge that claims 8 and 10-16 are withdrawn from consideration because they are drawn to non-elected inventions. However, in case a linking claim is allowed and in order to expedite prosecution, applicants have amended claim 16. Specifically, applicants have amended claim 16 to depend from claims 1-7 and new claims 17-18. Support for this amendment is found in claim 16 as originally filed.

Applicants have amended claim 1 to recite the intended substituents for Ring A and radicals R_1 and R_2 . Support for this amendment is found in the specification at pages 10-11, paragraphs [0019] to [0021]. Applicants have also amended radical R_2 in claim 1 and claim 6 to remove therefrom subject matter disclosed in European Patent Application EP 0456835 A1, published on November 21, 1991 (hereinafter "Fujimori"); subject matter disclosed in Malamas et al., J. Med. Chem., Vol. 34, pp. 1492-1503 (1991) (hereinafter "Malamas"); and subject matter disclosed in Gordeev et al., Tet. Lett., Vol. 38, No. 10, pp. 1729-1732 (hereinafter "Gordeev"). Support for this amendment is found in claims 1 and 6 as originally filed.

Applicants have also amended claim 5 to remove the

inadvertent double recitation of the term "methyl".

Applicants have amended claim 7 to delete the inadvertent recitation of the phrase "According to another preferred embodiment, R₃ and R₄ are independently selected from hydrogen, halo, acetamido, allyloxy, thiophenyl, sulfoxyalkyl, or sulfoxyphenyl." Applicants have also amended claim 7 to delete reference to the term "methyl" to correct an inadvertent error.

Applicants have amended claim 9 to depend from claims 1-7 and new claims 17-18. Support for this amendment is found in claim 9 as originally filed.

Applicants have added claim 17 directed to particular embodiments of radicals R₃ and R₄. Support for this claim is found in original claim 7 and in the specification at page 13, paragraph [0031].

Applicants have added claim 18 directed to particular species embodiments of the present invention. Support for this amendment is found in the specification at pages 30-49.

None of the amendments add new matter. These amendments are further discussed below in the context of the Examiner's rejections.

The Rejections

35 U.S.C. § 112, Second Paragraph

The Examiner has rejected claims 1-7, and 9 under 35 U.S.C. § 112, second paragraph, as being indefinite for

failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically the Examiner asserts that in claim 1, the recitation of the phrase "optionally substituted" leaves the intended groups with "indefinite metes and bounds". The Examiner also asserts that the definition of radical R⁸ as an "amino protecting group" has indefinite metes and bounds. Applicants traverse in part.

As discussed above, applicants have amended claim 1 to recite the substituents intended. Dependent claims 2-7 and 9 also incorporate this limitation. Accordingly, applicants respectfully request that the Examiner withdraw this rejection.

Regarding the definition of radical R⁸ as an "amino protecting group", applicants traverse the Examiner's rejection. One of skill in the art would readily recognize that the term "amino protecting group" is definite and refers to suitable chemical moieties that may be attached to a nitrogen atom. Additionally, in the specification as filed at pages 13-14, paragraph [0032], applicants recite four chemical treatises that describe suitable chemical protecting groups. Therein and most notably, authors T.W. Greene and P.G.M. Wuts in Protective Groups in Organic Synthesis, devote a chapter to amino protecting groups and describe the reagents necessary for both formation and cleavage of these

commonly used chemical groups. Hence the common chemical knowledge of one skilled in the art plus the references cited in applicants' specification as filed combine to make the phrase "amino protecting group" clear and precise in scope. Accordingly, applicants respectfully request that the Examiner withdraw this rejection.

The Examiner has also rejected claim 7 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner asserts that the phrase "According to another preferred embodiment" renders the claim indefinite because it is not clear if the phrase was intended as a claim limitation. As discussed above, applicants have amended claim 7 to delete the phrase "According to another preferred embodiment, R₃ and R₄ are independently selected from hydrogen, halo, acetamido, allyloxy, thiophenyl, sulfoxyalkyl, or sulfoxyphenyl" thereby obviating this rejection.

35 U.S.C. § 102 (b)

The Examiner has rejected claims 1-7 and 9 under 35 U.S.C. § 102 (b) as being anticipated by Fujimori, Malamas, and Gordeev. The Examiner asserts that Fujimori teaches specific compound species (compound #91, #113, and #161) that read on formula I in instant claims 1-7, and 9. The Examiner also asserts that Malamas teaches a

specific compound species (compound #17) and that Gordeev teaches a compound species (compound #8h) both of which read on formula I in instant claims 1-7, and 9.

In response to the rejection and as discussed above, applicants have amended claim 1 to remove therefrom subject matter disclosed in Fujimori, Malamas, and Gordeev. Specifically, applicants have amended radical R_2 to recite " R_2 is an aliphatic, cycloaliphatic-aliphatic, or heteroarylaliphatic wherein..." Thus, the claims as amended exclude the R_2 "arylaliphatic" and "heterocyclaliphatic" species disclosed by Fujimori, Malamas, and Gordeev. Therefore, applicants respectfully request that the rejection of claims 1-7 and 9 as anticipated by Fujimori, Malamas, and Gordeev be withdrawn.

35 U.S.C. § 103

The Examiner has rejected claims 1-7, and 9 under 35 U.S.C. § 103(a) as being unpatentable over Fujimori. According to the Examiner, Fujimori teaches three species (compound numbers 91, 113, and 161 at pages 20, 21, and 24 respectively of European Patent Application EP 0456835 A1) and a genus (generic formula I, at page 3 of European Patent Application EP 0456835 A1) "that read on various aspects of the invention" and are useful as inhibitors of platelet aggregation. The Examiner asserts that "the skilled chemist would have been motivated to make other compounds of the claimed formula I because said compounds

would have been expected to inhibit platelet aggregation as well." The Examiner concludes "at the time the invention was made, it would have been obvious to make and use compounds of the claimed formula I in view of the teaching above." Applicants respectfully traverse in light of the above amendments and for at least the following reasons.


Fujimori neither teaches nor suggests the compounds of the present invention nor does Fujimori render obvious the claimed utility of the compounds of the present invention (e.g., treating autoimmune diseases, proliferative disorders, angiogenic disorders, and cancer). Applicants submit that Fujimori neither teaches nor suggest the compounds of the instant claims, as amended, or the use of those compounds for inhibiting SHP-2 phosphatase activity or for treating or lessening the severity of a SHP-2-mediated disease. Rather, Fujimori discloses compounds that are useful in treating platelet aggregation based on their ability to modulate aldose reductase. Therefore, Fujimori cannot be fairly viewed as teaching or suggesting the compounds of the amended claims of the instant application. Furthermore, based on the Fujimori disclosure, one of skill in the art would not find it obvious that the compounds of the present invention would have the claimed utility. Accordingly, applicants respectfully request that the Examiner withdraw this rejection of these claims under 35

U.S.C. § 103 (a).

Conclusion

Applicants request that the Examiner enter the above amendments, consider the foregoing remarks and allow the pending claims to pass to issue.

Respectfully submitted,


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